

WHAT IS CLAIMED IS:

1. A semiconductor circuit component capable of being driven when an externally provided switch unit is turned on to supply a power supply voltage to said semiconductor circuit component,

said semiconductor circuit component comprising:

a load-control semiconductor switching device with a control terminal;

a control signal supply circuit for supplying a control signal to said control terminal of said load-control semiconductor switching device to drive said load-control semiconductor switching device; and

a drive control circuit for controlling drive in a manner so that, only when said switch unit is turned on,

a power supply voltage is supplied from said drive control circuit to said control signal supply circuit to make said control signal supply circuit output the control signal.

2. The semiconductor circuit component according to claim 1, wherein

said drive control circuit is disposed between a power supply and a ground and in series with said switch unit, so that only when said switch unit is turned on,

SUB
A 3
cont. 7

the power supply voltage is supplied from said drive control circuit to said control signal supply circuit.

3. The semiconductor circuit component according to claim 2, wherein

said drive control circuit comprises:

a drive-control semiconductor switching device with a control terminal; and

a voltage supply circuit for supplying a drive voltage to said control terminal of said drive-control semiconductor switching device when said switch unit is turned on and (a) power supply voltage having a rated value is supplied to said voltage supply circuit, and wherein

said drive-control semiconductor switching device performs drive control so that the power supply voltage is supplied from said drive-control semiconductor switching device to said control signal supply circuit when the drive voltage is supplied to said drive-control semiconductor switching device from said voltage supply circuit to drive said drive-control semiconductor switching device.

Sub B, 1
4. The semiconductor circuit component according to claim 3, wherein

said voltage supply circuit comprises:

5 a voltage dividing circuit for dividing the power supply voltage supplied through said switch unit, and

a voltage suppressing circuit for suppressing a partial voltage into a predetermined value, the partial voltage being obtained by said voltage dividing circuit.

10 5. The semiconductor circuit component according to claim 3, wherein

said drive-control semiconductor switching device has one end connected to a ground end of said control signal supply circuit while the ground end is grounded

15 through the other end of said drive-control semiconductor switching device, so that when a drive voltage is supplied to said drive-control semiconductor switching device from said voltage supply circuit to drive said drive-control semiconductor switching device,

Fig 1
20 the ^{second} power supply voltage is supplied from said drive-control semiconductor switching device to said control signal supply circuit.

6. The semiconductor circuit component according to claim 5, further comprising:

a first externally leading-out terminal connected to a power input end of said voltage supply circuit while connected to the power supply through said switch unit;

a second externally leading-out terminal connected to the other end of said drive-control semiconductor switching device while connected to the ground;

a third externally leading-out terminal connected to one end of said load-control semiconductor switching device and to a power input end of said control signal supply circuit while connected to said power supply; and

a fourth externally leading-out terminal connected to the other end of said load-control semiconductor switching device while connected to a load.

7. The semiconductor circuit component according to claim 3, wherein

said drive-control semiconductor switching device has one end connected to a power input end of said control signal supply circuit while the power input end is connected to said power supply through the other end of said drive-control semiconductor switching device so that, when a drive voltage is supplied from said voltage

supply circuit to said drive-control semiconductor switching device to drive said drive-control semiconductor switching device, the ^{second} power supply voltage is supplied from said drive-control semiconductor switching device to said control signal supply circuit.

8. The semiconductor circuit component according to claim 7, further comprising:

a first externally leading-out terminal connected to the other end of said drive-control semiconductor switching device and to one end of said load-control semiconductor switching device while connected to said power supply;

a second externally leading-out terminal connected to a ground end of the voltage supply circuit while connected to the ground through said switch unit;

a third externally leading-out terminal connected to the other end of said load-control semiconductor switching device while connected to said load; and

a fourth externally leading-out terminal connected to a ground end of said control signal supply circuit while connected to the ground.

SUB
A4 7

9. The semiconductor circuit component according to claim 1, wherein

said drive control circuit has first and second drive control circuits, and

5 said switch unit has first and second switch units, and wherein

said first drive control circuit is connected in series with said first switch unit between said power supply and the ground,

10 said second drive control circuit is connected in series with said second switch unit between said power supply and the ground,

so that only when said first and second switch units are turned on, said power supply voltage is
15 supplied from said drive control circuit to said control signal supply circuit.

10. The semiconductor circuit component according to claim 9, wherein

20 said first drive control circuit comprises:

a first drive-control semiconductor switching device with a control terminal, and

a first voltage supply circuit for supplying a drive voltage to said control terminal of said first
25 drive-control semiconductor switching device, upon

SUB
A
cont. 7

turning said first switch unit on, by supplying a power supply voltage having a rated value to said first voltage supply circuit,

3
5 said second drive control circuit comprises:

6 a second drive-control semiconductor switching device with a control terminal, and

7 a second voltage supply circuit for supplying a drive voltage to said control terminal of said second drive-control semiconductor switching device, upon
8
9
10 turning said second switch unit on, by supplying a power supply voltage having a rated value to said second voltage supply circuit, and wherein

11 when said first and second drive-control semiconductor switching devices are supplied with drive
12
13
14
15 voltages from said first and second voltage supply circuits respectively and driven, the power supply voltage is supplied from said first and second drive-control semiconductor switching devices to said control signal supply circuit.

20
11. The semiconductor circuit component according to claim 10, wherein

said first voltage supply circuit comprises:

SUB
A4
cont.

a first voltage dividing circuit for dividing the power supply voltage supplied through said first switch unit, and

5 a first voltage suppressing circuit for suppressing a partial voltage into a predetermined value, the partial voltage being obtained by said first voltage dividing circuit; and

said second voltage supply circuit comprises:

10 a second voltage dividing circuit for dividing the power supply voltage supplied through said second switch unit, and

15 a second voltage suppressing circuit for suppressing a partial voltage into a predetermined value, the partial voltage being obtained by said second voltage dividing circuit.

12. The semiconductor circuit component according to claim 10, wherein

20 said first drive-control semiconductor switching device is formed to have one end connected to a ground end of said control signal supply circuit while said ground end is grounded through the other end of said first drive-control semiconductor switching device, and

25 said second drive-control semiconductor switching device is formed to have one end connected to a power

SUB
A4
CONT.

input end of said control signal supply circuit while said power input end is connected to said power supply through the other end of said second drive-control semiconductor switching device,

5 so that when a drive voltage is supplied from said first voltage supply circuit to said first drive-control semiconductor switching device to drive said first drive-control semiconductor switching device,

10 and when a drive voltage is supplied from said second voltage supply circuit to said second drive-control semiconductor switching device to drive said second drive-control semiconductor switching device,

15 the power supply voltage is supplied from said first and second drive-control semiconductor switching devices to said control signal supply circuit.

13. The semiconductor circuit component according to claim 12, further comprising:

20 a first externally leading-out terminal connected to a power input end of said first voltage supply circuit while connected to said power supply through said first switch unit;

a second externally leading-out terminal connected to a ground end of said second voltage supply circuit

SUB
A47

while connected to the ground through said second switch unit;

5 a third externally leading-out terminal connected to the other end of said second drive-control semiconductor switching device and to one end of said load-control semiconductor switching device while connected to said power supply;

10 a fourth externally leading-out terminal connected to the other end of said load-control semiconductor switching device while connected to said load; and

a fifth externally leading-out terminal connected to the other end of said first drive-control semiconductor switching device while connected to the ground.

15

Add A5 >